USPTO Serial Number: 10/828,773

Fatemizadeh et al.

Reply to Office Action dated December 18, 2006

Amendment to the Claims:

1-21. (Canceled)

22. (Previously presented) A semiconductor device, comprising:

a first gate region;

an epitaxial region having a first conductivity type;

a first region disposed within the epitaxial region, under the first gate region and extending at least half way through the epitaxial region, wherein the first region has a second conductivity type opposite the first conductivity type;

a second gate region;

a second region disposed within the epitaxial region, under the second gate region and extending at least half way through the epitaxial region, wherein the second region has the second conductivity type; and

a third region disposed between the first and second regions and having the first conductivity type.

- 23. (Previously presented) The semiconductor device of claim 22, further including a trench formed in the epitaxial region for disposing the first gate region within the trench.
- 24. (Previously presented) The semiconductor device of claim
- 22, further including:

a drain region disposed below the epitaxial region; and

a source region disposed over a first portion of the epitaxial region.

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- 25. (Previously presented) The semiconductor device of claim 22, wherein the first conductivity type is N-type semiconductor material.
- 26. (Previously presented) The semiconductor device of claim 22, wherein the first region is made with P+ semiconductor material.

27-28 (Canceled)

29. (Previously presented) A transistor having a gate region, drain region, and source region, comprising:

an epitaxial region having a first conductivity type;

- a semiconductor material disposed within the epitaxial region, under the gate region and extending into the epitaxial region of sufficient depth to reduce drain to source resistance of the transistor, wherein the semiconductor material has a conductivity type which is opposite the first conductivity type;
- a first region disposed within the epitaxial region, under a first portion of the gate region and extending at least half way through the epitaxial region; and
- a second region disposed within the epitaxial region, under a second portion of the gate region and extending at least half way through the epitaxial region.

30-31 (Canceled)

32. (Previously presented) The transistor of claim 29, wherein the transistor is a junction field effect transistor.